

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
 - 2 incorporating a multi-port switch into a multi-node
 - 3 computer system; and
 - 4 assigning at least a first port of the multi-port
 - 5 switch to a first domain of the nodes.
- 1 2. The method of claim 1 further comprising:
 - 2 delivering transactions that are received by the
 - 3 multi-port switch and are identified as associated with
 - 4 the first domain, to the at least a first or more ports
 - 5 assigned to the first domain.
- 1 3. The method of claim 1 further comprising:
 - 2 connecting nodes associated with the first domain to
 - 3 the at least a first port assigned to the first domain.
- 1 4. The method of claim 1 further comprising:
 - 2 assigning at least a second port of the multi-port
 - 3 switch to a second domain.
- 1 5. The method of claim 4 further comprising:
 - 2 delivering transactions, which are received by the
 - 3 multi-port switch and are identified as associated with
 - 4 the second domain, to the at least a second or more ports
 - 5 assigned to the second domain.
- 1 6. The method of claim 4 further comprising:
 - 2 connecting nodes associated with the second domain
 - 3 to ports assigned to that second domain.

1 7. The method of claim 1 further comprising:
2 assigning at least a third port of the multi-port
3 switch to a third domain; and
4 connecting nodes associated with the third domain to
5 ports assigned to that third domain.

1 8. The method of claim 7 further comprising:
2 delivering transactions, which are received by the
3 multi-port switch and specify the third domain, to the at
4 least a third or more ports assigned to the third domain.

1 9. The method of claim 2 further comprising:
2 monitoring broadcast transactions generated for the
3 first domain; and
4 transmitting these broadcast transactions to only
5 the at least a first or more ports assigned to the first
6 domain.

1 10. The method of claim 3 further comprising:
2 maintaining the coherency of the cache memory for
3 the first domain.

1 11. The method of claim 10 wherein said maintaining the
2 coherency includes:
3 monitoring the caching of system memory by the nodes
4 associated with the first domain; and
5 informing the nodes requiring a cache update that
6 the content of the system memory they have cached has
7 changed.

1 12. A domain partitioning process for creating multiple
2 domains comprising:

3 a multi-port switch containing ports; and

4 a first domain port assignment process for assigning
5 at least a first port of said multi-port switch to a
6 first domain.

1 13. The domain partitioning process of claim 12 further
2 comprising:

3 a first domain transaction routing process for
4 routing transactions, which are received by said multi-
5 port switch and specify the first domain, to one or more
6 ports assigned to the first domain.

1 14. The domain partitioning process of claim 12 further
2 comprising:

3 a second domain port assignment process for
4 assigning at least a second port of said multi-port
5 switch to a second domain.

1 15. The domain partitioning process of claim 14 further
2 comprising:

3 a second domain transaction routing process for
4 routing transactions, which are received by the multi-
5 port switch and specify the second domain, to one or more
6 ports assigned to the second domain.

1 16. The domain partitioning process of claim 14 further
2 comprising:

3 a third domain port assignment process for assigning
4 at least a third port of the multi-port switch to a third
5 domain.

1 17. The domain partitioning process of claim 16 further
2 comprising:

3 a third domain transaction routing process for
4 routing transactions, which are received by the multi-
5 port switch and specify the third domain, to one or more
6 ports assigned to the third domain.

1 18. The domain partitioning process of claim 13 further
2 comprising:

3 a broadcast partitioning process for monitoring
4 broadcast transactions generated for the first domain and
5 transmitting these broadcast transactions to only the one
6 or more ports assigned to the first domain.

1 19. The domain partitioning process of claim 13 further
2 comprising:

3 a domain cache coherency process for monitoring the
4 caching of system memory by the nodes associated with the
5 first domain, and informing the nodes requiring a cache
6 update that the content of the system memory they have
7 cached has changed.

1 20. A domain partitioning process for creating multiple
2 domains in a multi-node computer system comprising:
3 a multi-port switch containing a plurality of ports;
4 and
5 a port assignment process for assigning at least one
6 port of said multi-port switch to one of a plurality of
7 domains.

1 21. The domain partitioning process of claim 20 further
2 comprising:

3 a transaction routing process for routing domain-
4 specific transactions received by said multi-port switch
5 to one or more ports assigned to the specified domain.

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1 22. A computer program product residing on a computer
2 readable medium having a plurality of instructions stored
3 thereon which, when executed by the processor, cause that
4 processor to:

5 assign at least a first port of a multi-port switch
6 to a first domain; and

7 route transactions, which are received by the multi-
8 port switch and specify the first domain, to one or more
9 ports assigned to the first domain.

1 23. The computer program product of claim 22 wherein said
2 computer readable medium is a read-only memory.

1 24. The computer program product of claim 22 wherein said
2 computer readable medium is a hard disk drive.

1 25. A processor and memory configured to:

2 assign at least a first port of a multi-port switch
3 to a first domain; and

4 route transactions, which are received by the multi-
5 port switch and specify the first domain, to one or more
6 ports assigned to the first domain.

1 26. The processor and memory of claim 25 wherein said
2 processor and memory are incorporated into a network server.

1 27. The processor and memory of claim 25 wherein said
2 processor and memory are incorporated into a workstation.

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1 28. A domain partitioning system comprising:
2 a multi-port switch containing a plurality of ports;
3 a IO hub controller connected to one of said ports;
4 a scalable node controller connected to one of said
5 ports;
6 at least one microprocessor connected to said
7 scalable node controller;
8 a first domain port assignment process for assigning
9 at least a first port of said multi-port switch to a
10 first domain; and
11 a first domain transaction routing process for
12 routing transactions, which are received by said multi-
13 port switch and specify the first domain, to one or more
14 ports assigned to the first domain.

1 29. The domain partitioning system of claim 28 further
2 comprising:

3 a second domain port assignment process for
4 assigning at least a second port of said multi-port
5 switch to a second domain.

1 30. The domain partitioning system of claim 29 further
2 comprising:

3 a second domain transaction routing process for
4 routing transactions, which are received by said multi-
5 port switch and specify the second domain, to one or more
6 ports assigned to the second domain.